
JOINT APPLICATION FOR INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT/ AUTHORIZATION TO USE STATE-OWNED SUBMERGED LANDS/ FEDERAL DREDGE AND FILL PERMIT

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION/
WATER MANAGEMENT DISTRICTS/
U.S. ARMY CORPS OF ENGINEERS

Effective October 1, 2013



**US Army Corps
of Engineers®**

INSTRUCTIONS FOR USE OF THIS FORM:

This form is designed to assist you in submitting a complete application. All applications must include Section A-General Information for All Activities. Sections B through H list typical information that is needed based on the proposed activities, and are only required as applicable. Part 1-C of Section A will guide you to the correct sections needed based on your proposed activities. Applicants are advised to consult Chapter 62-330, F.A.C., and the Environmental Resource Permit Applicant’s Handbook Volumes I and II for information regarding the ERP permitting process and requirements while preparing their application. Internet addresses for Chapter 62-330, F.A.C. and the Applicant’s Handbook, Agency contact information, and additional instructions for this form can be found in Attachment 1.

What Sections of the Application Must I Fill Out?

Does the project involve....	Section							
	A- General Information	B- Single Family Projects	C- Wetlands and other Surface Waters	D- Structures or Works in Surface Waters	E- Stormwater Management System	F- State-owned Submerged Lands	G- Mitigation Banks	H- Mines
Fill in wetlands or waters for a single family residence?	X	X						
Docks, shoreline stabilization, seawalls associated with a single family residence?	X	X				X, if applicable		
Wetland impacts (other than associated with an individual residence)?	X		X					
Boating facilities, a marina, jetty, reef, or dredging?	X		X	X		X if applicable		
Any work on state owned submerged land?	X		X			X		
Construction of a stormwater management system?	X		X, if applicable		X			
Constructing a mitigation bank?	X		X		X, if applicable		X	
Creating a mine?	X		X, if applicable					X

Note- if you are required to provide Section B, then you do not have to provide any other Sections, unless the activities are on state-owned submerged lands. In that case, Section F will also be required.

If you have any questions, or would like assistance completing this form, please contact the staff of the nearest office of either the Florida Department of Environmental Protection (DEP) or a Water Management District (WMD) (see Attachment 2).

Section A: General Information for All Activities

PART 1: NAME, APPLICATION TYPE, LOCATION, AND DESCRIPTION OF ACTIVITY

A. Name of project, including phase if applicable: **Eastside Veterinary Hospital**

B. This is for (check all that apply):

- Construction or operation of **new** works, activities and/ or a stormwater management system
- Conceptual Approval** of proposed works, activities and/ or a stormwater management system
- Modification or Alteration of **existing** works activities and / or a stormwater management system. Provide the existing DEP or WMD permit #, if known: _____ Note: Minor modifications do not require completion of this form, and may instead be requested by letter.
- Maintenance or repair** of works, activities and/ or stormwater management system previously permitted by the DEP or WMD Provide existing permit #, if known: _____
- Abandonment or removal of works, activities and/ or stormwater management system Provide existing DEP or WMD permit #, if known: _____
- Operation of an **existing unpermitted** stormwater management system.
- Construction of additional phases of a permitted work, activity and/ or stormwater management system. Provide the existing DEP or WMD permit #, if known: _____

C. **List the type of activities proposed. Check all that apply, and provide the supplemental information requested in each of the referenced application sections. Please also reference Applicant's Handbooks I and II for the type of information that may be needed.**

- Activities associated with one single-family residence, duplex, triplex, or quadruplex that do not qualify for an exemption or a Noticed General Permit: **Provide the information requested in Section B. Do not complete Section C.**
- Activities within wetlands or surface waters, or within 25 feet of a wetland or surface water, (not including the activities associated with an individual residence). *Examples include dredging, filling, outfall structures, docks, piers, over-water structures, shoreline stabilization, mitigation, reclamation, restoration/ enhancement.* **Provide the information requested in Section C.**
- Activities within navigable or flowing surface waters such as a multi-slip dock or marina, dry storage facility, dredging, bridge, breakwaters, reefs, or other offshore structures: **In addition to Section C, also provide the information requested in Section D.**
- Activities that are (or may be) located within, on or over state-owned submerged lands (See Chapter 18-21, F.A.C. <https://www.flrules.org/gateway/ChapterHome.asp?Chapter=18-21>): **In addition to Section B or C, also provide the information requested in Section F**

- Construction or alteration of a stormwater management system serving residential, commercial, transportation, industrial, agricultural, or other land uses, or a solid waste facility (excluding mines that are regulated by DEP). **Provide the information requested in Section E.**
- Creation or modification of Mitigation Bank (refer to Chapter 62-342, F.A.C. <https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-342>): **Provide the information requested in Section G.**
- Mines (as defined by in Section 2.0 of Applicant's Handbook Volume I) that are regulated by the DEP: **Provide the information requested in Section H.**
- Other, describe: _____ Please contact the Agency to determine which additional sections of the application are needed. See Attachment 1 for Agency contacts.

D. Describe in general terms the proposed project, system, works, or other activities. For permit modifications, please briefly describe the changes requested to the permit: **Development of the proposed Eastside Veterinary site will consist of a 8,519 SF building, asphalt parking area and a dry stormwater pond. The proposed project will result in approximately 26,012 SF (0.59 AC) of new impervious area.**

E. For activities in, on, or over wetlands or other surface waters, check the type of federal dredge and fill permit requested (if known): Individual Programmatic General permit #: SAJ

General Nationwide permit #:NWP Not Applicable Not sure

F. Project/Activity Street/Road Address or other location (if applicable): **15016 PINE VALLEY BLVD**
 City: **CLERMONT FL** County(ies)**Lake** Zip: **34711**

Note: For utility, road, or ditch/canal activities, provide a starting and ending point using street names and nearest house numbers or provide length of project in miles along named streets or highways.

G. Project location map and Section, Township, and Range information (use additional sheets if needed): **Please attach a location map showing the location and boundaries of the proposed activity in relation to major intersections or other landmarks. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.**

Land Grant name, if applicable:

Section(s): 27 Township: 22S Range: 26E

H. Latitude (DMS) _____ Longitude (DMS) _____ (Taken from central location of the activity). Explain source for obtaining latitude and longitude (i.e. U.S.G.S. Quadrangle Map, GPS, online resource):

I. Tax Parcel Identification Number(s): **27222605000000800**

[Number may be obtained from property tax bill or from the county property appraiser's office; if on multiple parcels, provide multiple Tax Parcel Identification Numbers]

J. Directions to Site (from major roads; include distances and landmarks as applicable): **Located at the Ne corner of Hancock Road and Pine Valley Boulevard**

K. Project area or phase area: **1.92** acres

L. Name of waterbody(ies) (if known) in which activities will occur or into which the system will discharge:

Receiving Waterbody	Class Type	Outstanding Florida Water	Aquatic Preserve
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The following questions (M-O) are not applicable to activities related to a single-family residence, including private single-family residential docks, piers, seawalls or boat ramps.

M. Is it part of a larger plan of development or sale? yes no

N. Impervious or semi-impervious area excluding wetlands and other surface waters (if applicable): **0.59** acres or square feet

O. Volume of water the system is capable of impounding (if applicable): acre- feet.

PART 2: SUPPLEMENTAL INFORMATION, AND PERMIT HISTORY

A. Is this an application to modify an existing Environmental Resource Permit, or to construct or implement part of a multi-phase project, such as a project with a Conceptual Approval permit? Yes No *If you answered "yes", please provide permit numbers below:*

AGENCY	DATE	PERMIT/ APPLICATION NO.	PROJECT NAME

B. Indicate if there have been any **pre-application meeting(s)** or other discussions about the proposed project, system or activity. If so, please provide the date(s), location(s) of the meeting, and the name(s) of Agency staff that attended the meeting(s):

AGENCY	DATE	LOCATION	MEETING ATTENDEES
SJR	14- NOV- 17	Phone Conf	Sandy Joiner

C. **Attach a depiction (plan and section views), which clearly shows the works or other activities proposed to be constructed.** Use multiple sheets, if necessary, a scale sufficient to show the location and type of works, and include a north arrow and a key to any symbols used. **Specific information to be included in the plans is based on the activities proposed and is further described in Sections B-H.** However, supplemental information may be required based on the specific circumstances or location of the proposed works or other activities.

- D. Processing Fee: ***Please submit the application processing fee along with this application form and supplemental information.*** Processing fees vary based on the size of the activity, the type of permit applied for, and the reviewing Agency. Please reference Attachment 3 to determine the appropriate fee.

PART 3: APPLICANT AND ASSOCIATED PARTIES INFORMATION

Instructions: Permits are only issued to entities having sufficient real property interest as described in Section 4.2.3 (d) of Applicant's Handbook Volume I. Please attach evidence of sufficient real property interest over the land upon which the activities subject to the application will be conducted, including mitigation (if applicable). Refer to Section 4.2.3 (d) for acceptable ownership or real property interest documentation. For corporations, list a person who is a registered agent or officer of the corporation who has the legal authority to bind the corporation.

A. APPLICANT (ENTITY MUST HAVE SUFFICIENT REAL PROPERTY INTEREST)			
<input type="checkbox"/> THIS IS A CONTACT PERSON FOR ADDITIONAL INFORMATION			
Name: Last: Geiler	First: William	Middle:	
Title:	Company: Andoc, LLC		
Address: 731 East Highway 50			
City: Clermont	State: FL	Zip: 34711	
Home Telephone:	Work Telephone: 352-394-6624		
Cell Phone:	Fax:		
E-mail Address: bg45@mindspring.com			
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>			
B. LAND OWNER(S) (IF DIFFERENT OR IN ADDITION TO APPLICANT)			
<input type="checkbox"/> CHECK HERE IF LAND OWNER IS ALSO A CO-APPLICANT			
Name: Last: Geiler	First: William	Middle:	
Title:	Company: Andoc, LLC		
Address: 731 East Highway 50			
City: Clermont	State: FL	Zip: 34711	
Home Telephone:	Work Telephone: 352-394-6624		
Cell Phone:	Fax:		
E-mail Address: bg45@mindspring.com			
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>			
C. OPERATION AND MAINTENANCE ENTITY (see Applicant's Handbook I, Section 12.3)			
Entity Name:	Contact: Last:	First:	Middle:
Title:	Company:		
Address:			
City:	State:	Zip:	
Home Telephone:	Work Telephone:		
Cell Phone:	Fax:		
E-mail Address:			
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>			

D. CO-APPLICANT (IF DIFFERENT OR IN ADDITION TO APPLICANT AND OWNER)		
Name: Last:	First:	Middle:
Title:	Company:	
Address:		
City:	State:	Zip:
Home Telephone:	Work Telephone:	
Cell Phone:	Fax:	
E-mail Address:		
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>		
E. ENGINEERING CONSULTANT <input type="checkbox"/> THIS IS A CONTACT PERSON FOR ADDITIONAL INFORMATION		
Name: Last: Germana	First: Christopher	Middle:
Title:	Company: Germana Engineering and Associates	
Address: 1120 W. Minneola Avenue		
City: Clermont	State: FL	Zip: 34711
Home Telephone:	Work Telephone: 3522429329	
Cell Phone:	Fax:	
E-mail Address: cgermana@germanaengineering.com		
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>		
F. ENVIRONMENTAL CONSULTANT <input type="checkbox"/> THIS IS A CONTACT PERSON FOR ADDITIONAL INFORMATION		
Name: Last:	First:	Middle:
Title:	Company:	
Address:		
City:	State:	Zip:
Home Telephone:	Work Telephone:	
Cell Phone:	Fax:	
E-mail Address:		
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>		
G. AGENT AUTHORIZED TO SECURE PERMIT (IF DIFFERENT FROM CONSULTANT) <input type="checkbox"/> THIS IS A CONTACT PERSON FOR ADDITIONAL INFORMATION		
Name: Last:	First:	Middle:
Title:	Company:	
Address:		
City:	State:	Zip:
Home Telephone:	Work Telephone:	
Cell Phone:	Fax:	
E-mail Address:		
Correspondence will be sent via email. Check here to receive correspondence via US Mail: <input type="checkbox"/>		

If necessary, please add additional pages for other contacts and property owners related to this project.

Additional Addresses

Applicant	
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Land Owner	
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Operation and Maintenance Entity	
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Engineering Consultant	
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Environmental Consultant	
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Agent	
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Compliance Entity	
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Consultant	
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Correspondence will be sent via email. Check here to receive correspondence via US Mail:

If necessary, please add additional pages for other contacts and property owners related to this project.

PART 4: SIGNATURES AND AUTHORIZATION TO ACCESS PROPERTY

Instructions: For multiple applicants please provide a separate Part 4 for each applicant. For corporations, the application must be signed by a person authorized to bind the corporation. A person who has sufficient real property interest (see Section 4.2.3 (d) of Applicant's Handbook Volume I) is required in (B) to authorize access to the property, except when the applicant has the power of eminent domain.

A. By signing this application form, I am applying for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a different responsible operation and maintenance entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Dr. William Geiler



November 2, 2017

Typed/Printed Name of Applicant or
Applicant's Authorized Agent

Signature of Applicant or Applicant's
Authorized Agent

Date

(Corporate Title if applicable)

B. CERTIFICATION OF SUFFICIENT REAL PROPERTY INTEREST AND AUTHORIZATION FOR STAFF TO ACCESS THE PROPERTY:

I certify that:

I possess sufficient real property interest in or control, as defined in Section 4.2.3 (d) of Applicant's Handbook Volume I, over the land upon which the activities described in this application are proposed and I have legal authority to grant permission to access those lands. I hereby grant permission, evidenced by my signature below, for staff of the Agency and the U.S. Army Corps of Engineers to access, inspect, and sample the lands and waters of the property as necessary for the review of the proposed works and other activities specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review, inspection, and/ or sampling. Further, I agree to provide entry to the project site for such agents or personnel to monitor and inspect permitted work if a permit is granted.

OR

I represent an entity having **the power of eminent domain and condemnation authority**, and I/we shall make appropriate arrangements to enable staff of the Agency and the U.S. Army Corps of Engineers to access, inspect, and sample the property as described above.

Dr. William Geiler



November 2, 2017

Typed/Printed Name

Signature

Date

(Corporate Title if applicable)

C. DESIGNATION OF AUTHORIZED AGENT (IF APPLICABLE):

I hereby designate and authorize ___ to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

<u>William Geiler</u>	<u><i>William Geiler</i></u>	<u>November 2, 2017</u>
Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

November 2, 2017

RE: Letter of Authorization for Germana Engineering and Associates
Hancock Veterinary Building
Parcel Alt Key # 3304667

To Whom it May Concern:

I Dr. William Geiler, here by authorize Germana Engineering and Associates, LLC to prepare and submit permit applications on our behalf to the City of Clermont, Lake County Government, and St. Johns River Water Management District for the above referenced project. The subject property (Alt Key # 3304667) is current owned by Andoc, LLC and is located at 15016 Pine Valley Boulevard, Clermont, Florida 34711.

Andoc, LLC

A handwritten signature in cursive script that reads "William Geiler".

Dr. William Geiler
Manager



October 6, 2017
CPGT-17-132

To: Dr. William Geiler
731 Highway 50
Clermont, Florida 34711

Subject: Geotechnical Investigation, Proposed Veterinary Building
Hancock Road, Clermont, Lake County, Florida

Dear Dr. Geiler:

Andreyev Engineering, Inc. (AEI) has completed a geotechnical investigation for the above referenced project location. We understand that the subject development will include one (1) office building with paved parking/drive areas and a dry retention pond. This report presents the results of our geotechnical investigation along with an evaluation of the soil and groundwater conditions encountered. In addition, it provides geotechnical engineering recommendations for site preparation, foundation design, and pavement section design

SITE LOCATION AND DESCRIPTION

The subject site is located southeast of the intersection of Hancock Road and Pine Valley Road in Clermont, Lake County, Florida. The site is located in Section 27, Township 22 South, and Range 26 East in Lake County, Florida. We have included the U.S.G.S. Topographic Map which depicts the location of the site on the attached **Figure 1**.

PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to explore subsurface soil and groundwater conditions at this site for foundation support of the proposed buildings on shallow foundations and provide general design recommendations for foundation support.

The scope of this investigation included:

- Drilled three (3) Auger Borings with penetrometer probes to a depth of 15 feet within the proposed building site for general foundation evaluation.
- Drilled two (2) Auger Borings to a depth of 7 feet within the proposed parking/drive pavement areas.
- Drilled two (2) Auger Borings to a depth of 15 feet within the proposed pond area.
- Collected two (2) relatively undisturbed soil samples for laboratory permeability testing.
- Estimated normal seasonal high groundwater table levels.

Samples were recovered from the borings and returned to AEI's laboratory for visual classification and stratification. Soil strata were classified according to the Unified Soil Classification System (USCS). Approximate boring locations are shown on **Figure 3**, results of the borings, in profile form, are presented on **Figure 4**. On the profiles, horizontal lines designating the interface between differing materials represent approximate boundaries. The actual transition between layers is typically gradual.

NRCS Soil Survey

Based on the review of the United States Department of Agriculture, Soil Conservation Service, Soil Survey for Lake County, the site contains the following soil types:

Soil Unit #	Name	High Water Table Depth (inches)
8	Candler fine sand, 0 to 5% slopes	Deeper than 72"

A copy of the NRCS soil survey map is shown on the attached **Figure 2**.

SOIL AND GROUNDWATER CONDITIONS

Soil Conditions

Soil samples recovered from the borings were visually and tactually classified and stratified in the laboratory using the Unified Soil Classification System (USCS) and the interpretation of the field logs by a geotechnical engineer. The USCS classifications are presented adjacent to respective depths and soil profiles on **Figure 4**. Also included, adjacent to the building borings, are the equivalent "N" values. The "N" values have been empirically correlated with various soil properties and are considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive material. Upon completion of drilling, the boreholes were backfilled with additional soil materials.

The results of this investigation indicate the site soil conditions at boring locations B-1 through B-3, drilled within the proposed building site areas, generally consist of Strata 1, and 2 fine sands extending from the ground surface to the termination depth of drilling of 15 feet.

The "N" values, which represent the relative density of the encountered soils, indicate that the granular soils generally exist in a very loose to medium dense condition from the ground surface to depths of 10.

Groundwater Conditions

Groundwater was not encountered in any of the borings to the deepest termination depth of 15 feet. Based on the encountered subsurface conditions, our local experience, and antecedent rainfall conditions, we anticipate the normal seasonal high groundwater level to be deeper than 15 feet.

EVAULATION AND RECOMMENDATIONS

General

Based on our test boring results and our settlement analyses, a conventional shallow foundation system can be utilized for support of the proposed building addition as described in this report, provided that the site subgrade preparation recommendations discussed herein are instituted.

Maximum foundation loads associated with the proposed building are estimated to be 3 kips per lineal foot and 40 kips for wall and column loads, respectively. Based on the assumed foundation loads above, we estimate maximum total and differential settlement of 1 inch and 0.5 inch, respectively.

Provided that the site soils have been properly prepared and compacted, as specified in this report, the proposed structure can be supported on a conventional shallow foundation, sized on the basis of a maximum allowable soil contact pressure of 2,500 pounds per square foot (psf). For continuous wall footings, a minimum width of 1.5 feet is recommended. Any individual spread or column footings must be a minimum of 2 feet wide and also sized based on a maximum allowable soil contact pressure of 2,500 psf. The bottom of all footings shall be placed a minimum of 18 inches below the lowest adjacent finished grade.

Floor Slabs

Provided that the site subgrade preparation recommendations discussed herein are instituted, slab-on-grade construction may be used for the ground floor of the building.

Any cuts that are made in the building pad for utility installation should be backfilled with clean granular materials that are compacted to at least 95 percent of the soils' modified Proctor maximum dry density per ASTM D-1557.

The floor slabs should be reinforced with steel mesh or a suitable equivalent. To avoid potential problems with cracking because of differential loadings, the floor slabs should be liberally jointed and separated from columns and walls. An impervious membrane should be installed between the soil subgrade and bottom of floor slab areas to be overlain with moisture sensitive coverings. Use of such a moisture barrier should minimize slab moisture problems.

We recommend a modulus of subgrade reaction (k) of 150 pci for floor slab design.

Fill Placement and Subgrade Preparation

The following are our recommendations for overall site preparation and mechanical densification work in the structure area, based on the anticipated construction and our test boring results. These recommendations should be incorporated into the project general specifications prepared by the Design Engineer.

The structure area plus a five (5) foot margin beyond the outer lines should be stripped and cleared of trees, surface vegetation, topsoil, root laden soils, debris and any deleterious materials. A representative from our firm should observe the stripped grades to verify an adequate depth of stripping.

The exposed subgrade should be leveled sufficiently to permit equipment traffic, and then proof-rolled. Careful observations should be made during proof-rolling of the subgrade soils to identify any areas of soft yielding soils that may require over-excavation and replacement.

Compaction should continue until a minimum density requirement of 95% of the maximum modified Proctor dry density established in accordance with ASTM D-1557, is achieved for a minimum depth of 1 foot below the exposed subgrade as determined by field density (compaction) tests.

Following satisfactory completion of the initial compaction of the exposed subgrade soils at the specified minimum depth, the area may be brought up to finished subgrade levels. Fill should consist of fine sand with less than 10% passing the No. 200 sieve, free of rubble, organics, clay, debris and other unsuitable materials. Fill materials should be tested and approved prior to acquisition. Fill within 12 inches below the bottom of the slab shall have less than 7% passing the No. 200 sieve. Approved sand fill should be placed in loose lifts not exceeding 8 inches in thickness and should be compacted to a minimum of 95% of the maximum modified Proctor dry density (ASTM D-1557). Density tests to confirm compaction should be performed in each fill lift before the next lift is placed.

Backfill soils placed adjacent to footings or walls below or above grade should be carefully compacted with a light rubber-tired roller or vibratory plate compactor to avoid damaging the footings or walls. Approved sand fills placed in footing excavations above the bearing level, and in other areas which are expected to provide support or foundation embedment constraint, should be placed in loose lifts not exceeding 6 inches and should be compacted to a minimum of 95% of the maximum modified Proctor dry density (ASTM D-1557).

In-place density tests within the structure pad area should be performed at a minimum frequency of one test per 2,500 square feet for a depth of 1 foot below exposed subgrade and for each 1-foot lift of placed fill. In-place density tests should be performed for a depth of 2 feet below the bottom of each column footing. For continuous footings, in-place density tests should be performed at a minimum frequency of 1 test for every 50 linear feet for a depth of 2 feet below the bottom of the footing.

Earthwork operations should take place under the full-time observation of a representative from Andreyev Engineering, Inc.

Excavations

All excavations should be constructed in accordance with applicable local, state and federal regulations including those outlined by the Occupational Safety and Health Administration (OSHA). It is the contractor's sole responsibility for designing and constructing safe and stable excavations. Excavations should be sloped, benched or braced as required to maintain stability of the excavation sides and bottoms. Excavations should take into account loads resulting from equipment, fill stockpiles and existing construction. Any shoring needed to maintain a safe excavation should be designed by a professional engineer registered in the State of Florida in accordance with local, state and federal guidelines.

Pavement Areas

The pavement areas subgrade preparation should follow the general recommendations presented in the "Site Preparation" and "Fill Placement" sections of this report. Proofrolling of the subgrade soils in the pavement areas should continue for the required number of passes and until the soil at a depth of 12 inches below the compaction surface has attained a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Standard D-1557. In-place density tests should be performed by an experienced geotechnical engineering technician working under the direction of a geotechnical engineer to verify the required degree of compaction. We suggest a minimum testing frequency of one (1) test for every 5,000 square feet of proposed pavement areas.

Pavement/Base Recommendations: The shallow surface soils are considered acceptable for construction and support of flexible (limerock) or semi-flexible (soil-cement) base. If a minimum separation of 24 inches between the bottom of the base and the seasonal high groundwater table is maintained, then either soil-cement or limerock can be used. Where the separation will be consistently less than 24 inches, soil-cement should be used and pavement underdrains may be necessary. In no case should the separation be less than 12 inches.

Although a comprehensive pavement design is not within the scope of this study, below are recommendations on the use of pavement base for the proposed driveways/parking areas.

A limerock base should have a minimum thickness of 6 inches for light duty pavement and 8 inches for heavy duty pavement and should meet Florida Department of Transportation (FDOT) standards, including a minimum Limerock Bearing Ratio (LBR) of 100. A stabilized sub-base with a minimum Limerock Bearing Ratio (LBR) of 40 and a thickness of 12 inches would be required. Both base and sub-base should be compacted to at least 98% of the AASHTO T-180 Maximum Density.

In lieu of using a limerock base material for flexible pavement structure, consideration can be given to using a crushed concrete base material. The crushed concrete base material should have a minimum Limerock Bearing Ratio (LBR) of 120 and be compacted to at least 98 percent of the Modified proctor maximum dry density per ASTM D-1557. The crushed concrete material should meet FDOT specifications. The base course should be underlain by at least 12 inches of stabilized sub-base for both light and heavy duty pavement sections having an LBR of at least 40 and compacted to a minimum of 98 percent of the Modified proctor. The thickness for light and heavy duty areas shall be the same as the limerock base thicknesses provided above.

If a soil-cement base is used, the base thickness should be a minimum of 6 inches for light duty pavement and 8 inches for heavy duty pavement. A stabilized sub-base would not be required. However, the subgrade soils to a depth of 12 inches should be compacted to a minimum density of 98% of AASHTO T-180. The soil-cement base should be compacted to at least 95% of AASHTO T-134 and should have a minimum 7-day compressive strength of 300 psi. Please note that reflective cracking tends to be more common in pavement constructed with a soil soil-cement base. Therefore, it is also recommended that the pavement surface be seal coated within 1 year after construction and receive regular inspections and maintenance for long term performance.

The wearing surface may consist of Type S asphalt concrete meeting current FDOT specifications. A minimum of 1.5 inches of asphalt for light duty pavement and 2.0 inches of

asphalt for heavy duty pavement are recommended. The mixture should be compacted in-place to achieve a density equivalent of at least 95% of the laboratory density for the approved mix as determined by the Marshall Stability Test method (AASHTO T-245).

As an alternative to the asphalt pavement, a concrete section could be used. For a rigid concrete pavement section, we recommend a minimum thickness of 6 inches within light duty areas and 8 inches within heavy duty areas. The concrete should be reinforced sufficiently to withstand the design traffic loads and jointed to reduce the chances for crack development. The concrete should have a minimum unconfined compressive strength of 3,000 psi. The sub-grade soils underlying the concrete pavement should consist of well-draining fine sand with less than 7 percent passing the No. 200 sieve and should be compacted to at least 98 percent of the Modified proctor maximum dry density to a depth of at least 12 inches. We would be pleased to review the final pavement design for consistency with our recommendations.

For limerock/crushed concrete pavement sections, the bottom of the base course should be set at least 2 feet above the normal wet season high groundwater table. A minimum separation of 1 foot is recommended between the bottom of a soil-cement base/concrete pavement and the normal wet season high groundwater table. If these minimum separations cannot be achieved, then an underdrain system can be used to artificially lower groundwater levels. Any underdrain system will require a positive outfall.

The recommended pavement thicknesses presented herein are minimum thicknesses typical of local construction practices. Actual pavement section thicknesses should be designed by the project civil engineer based on traffic loads, volumes and the selected design life. All pavement materials should conform to the requirements of FDOT, American Concrete Institute (ACI) and city/county requirements.

Stormwater Retention System

Based on the results of our findings, it is our opinion that dry bottom pond design appears to be suitable for this site. Our recommended design are presented in the following table. Please note that the hydraulic conductivity values presented in the following table do not include a factor of safety.

Boring No.	Depth to Bottom of Aquifer (feet below pond bottom)	Unsaturated Vertical Hydraulic Conductivity (ft./day)	Horizontal Hydraulic Conductivity (ft./day)	Depth to Seasonal High Groundwater Table (feet below pond bottom)	Soil Storage Coefficient
P-1	15.0	30	40	14.0	0.25
P-2	15.0	23	40	14.0	0.25

LIMITATIONS OF REPORT

The analyses and recommendations submitted in this report are based on the anticipated location and type of construction discussed herein and the data obtained from the soil borings performed at the locations indicated, and does not reflect any variations which may occur beyond these borings. If any variations became evident during the course of construction, or if the structure location(s), type or loading changes, a re-evaluation of the recommendations contained in this report will be necessary after we have an opportunity to observe and evaluate the characteristics of the conditions encountered. Shifting or moving the structure location(s) will require additional evaluation. When final design plans and specifications are available, a general review by our office is strongly recommended as a means to check that the assumptions made in preparation of this report are correct, and that earthwork and foundation recommendations are properly interpreted and implemented. In addition, this investigation did not include a sinkhole evaluation of the site.

CLOSURE

AEI appreciates the opportunity to participate in this project, and we trust that the information herein is sufficient for your immediate needs. If you have any questions or comments concerning the contents of this report, please do not hesitate to contact the undersigned.

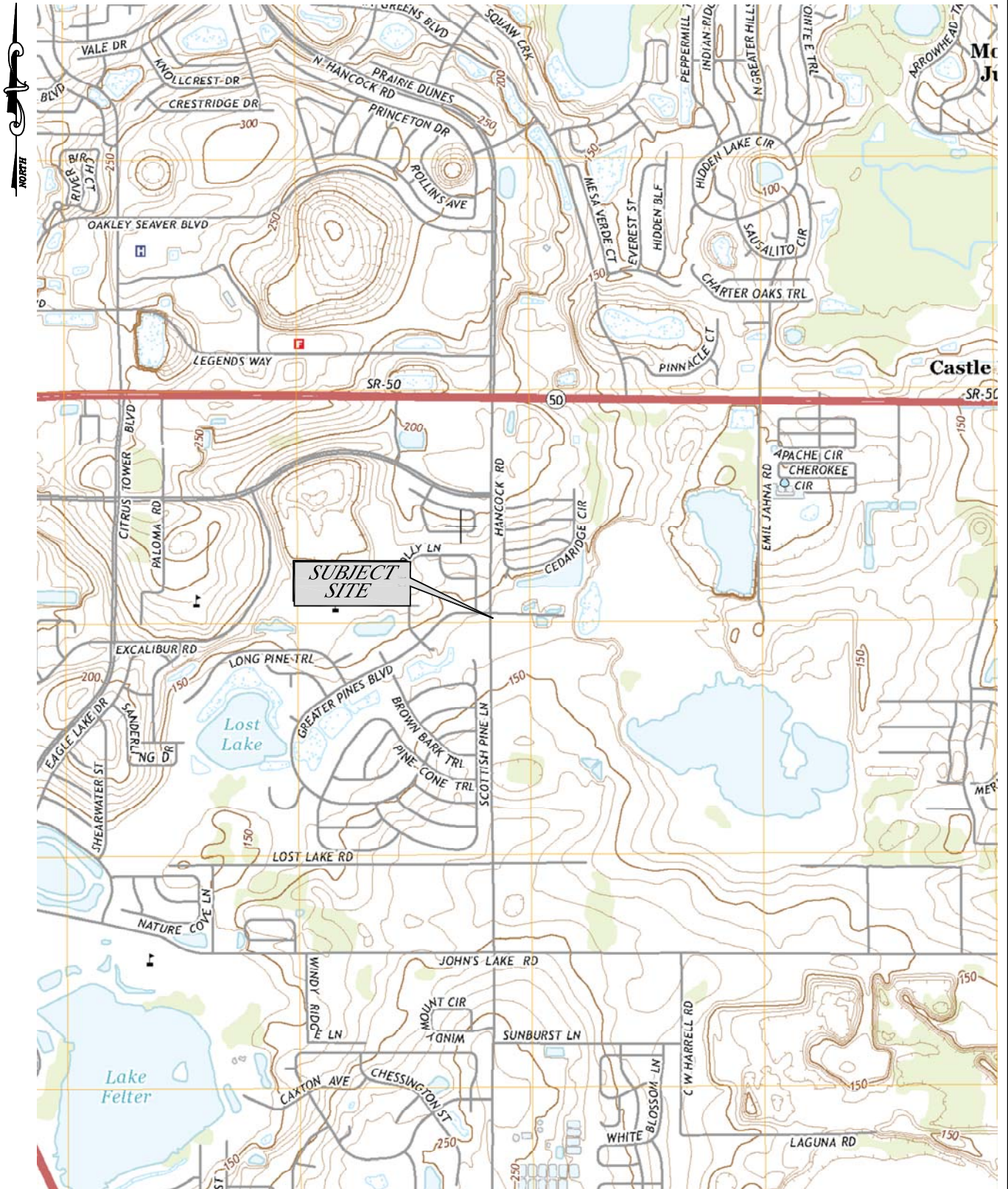
Sincerely,

ANDREYEV ENGINEERING, INC.



Rob B. Cornelius, P.E.
Project Engineer
FL Registration # 69864

FIGURES



REFERENCE:
 U.S.G.S. CLERMONT EAST, FLA.
 QUADRANGLE MAP
 DATED 2015
 SECTION 27
 TOWNSHIP 22 SOUTH
 RANGE 26 EAST



**Andreyev
 Engineering,
 Inc.**

GEOTECHNICAL INVESTIGATION
PROPOSED VETERINARY DEV.
 HANCOCK ROAD
 CLERMONT, LAKE COUNTY, FL

APPROXIMATE SCALE:
 1" = 2000'

DATE: 10/05/17
 PN: PCGT-17-132

ENGINEER: RC
 DRAWN BY: DLS

U.S.G.S. TOPOGRAPHIC MAP

FIGURE 1



LEGEND:

- 8 CANDLER SAND
0 TO 5% SLOPES
- 9 CANDLER SAND
5 TO 12% SLOPES
- 21 LAKE SAND

REFERENCE:
U.S.D.A. N.R.C.S. WEB SOIL SURVEY



**Andreyev
Engineering,
Inc.**

GEOTECHNICAL INVESTIGATION
PROPOSED VETERINARY DEV.
HANCOCK ROAD
CLERMONT, LAKE COUNTY, FL

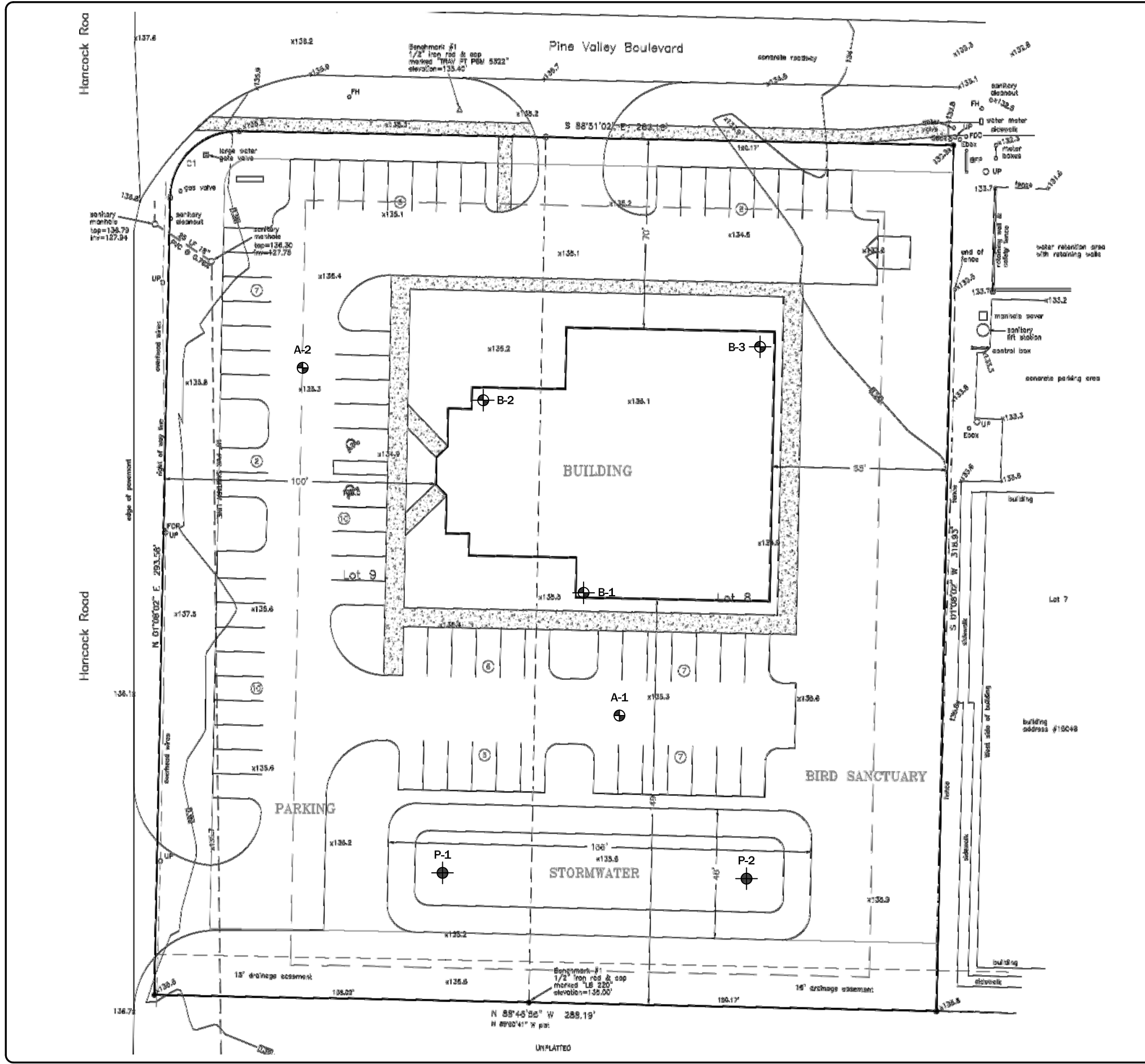
APPROXIMATE SCALE:
1" = 300'

DATE: 10/05/17
PN: CPGT-17-132

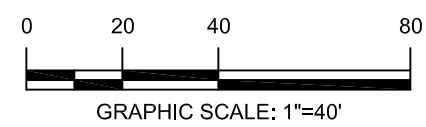
ENGINEER: RC
DRAWN BY: DLS


N.R.C.S. SOIL SURVEY MAP

FIGURE 2

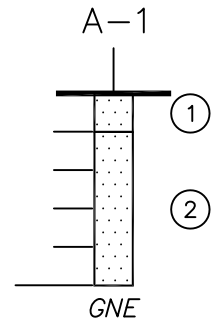
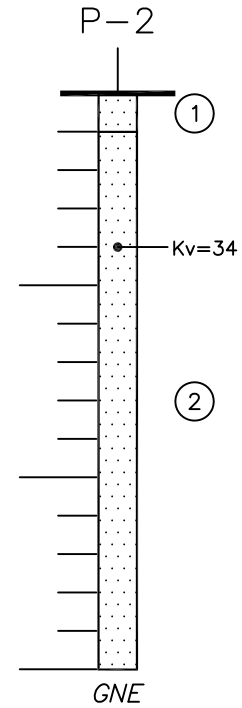
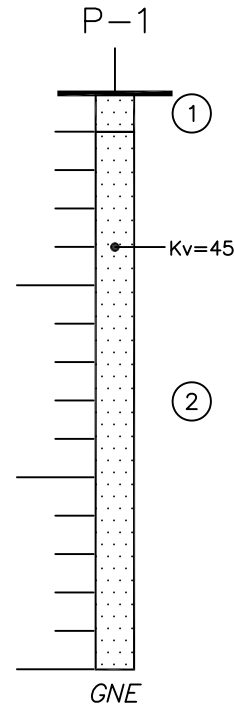
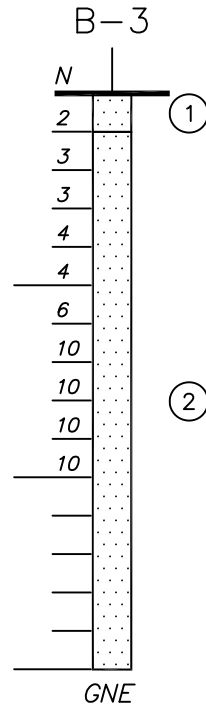
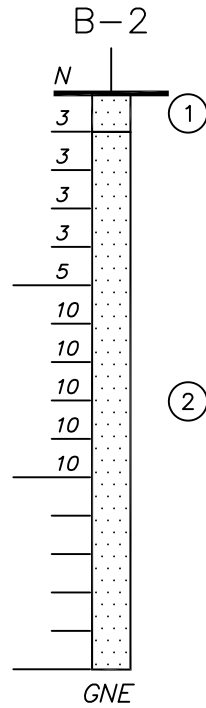
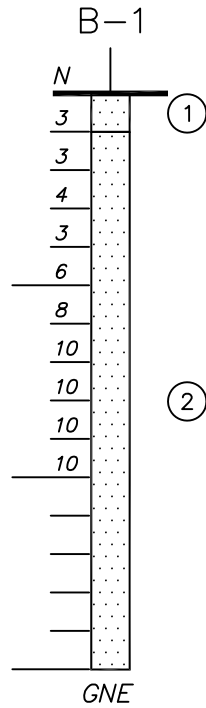
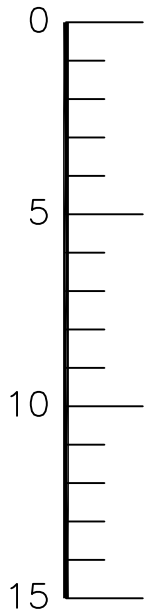


- LEGEND:**
- ⊕ APPROXIMATE LOCATION OF SPT BORING
 - ⊙ APPROXIMATE LOCATION OF POWER AUGER BORING
 - ⊗ APPROXIMATE LOCATION OF HAND AUGER BORING

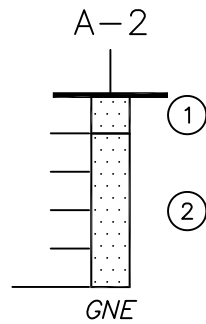
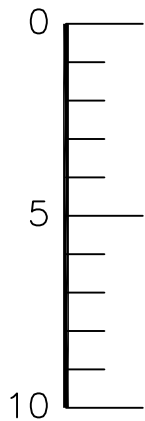


 Andreyev Engineering, Inc.	GEOTECHNICAL INVESTIGATION PROPOSED VETERINARY DEV. HANCOCK ROAD CLERMONT, LAKE COUNTY, FL	
	APPROXIMATE SCALE: 1" = 40'	DATE: 10/05/17 PN: CPGT-17-132
BORING LOCATION PLAN FIGURE 3		

DEPTH IN FEET



DEPTH IN FEET



LEGEND:

① DARK BROWN FINE SAND (SP)

② LIGHT BROWN TO ORANGISH BROWN FINE SAND (SP)

(SP) UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL

GNE GROUNDWATER NOT ENCOUNTERED

N STANDARD PENETRATION RESISTANCE, IN BLOWS PER FOOT

Kv VERTICAL COEFFICIENT OF PERMEABILITY, IN FEET PER DAY



**Andreyev
Engineering,
Inc.**

GEOTECHNICAL INVESTIGATION
PROPOSED VETERINARY DEV.
HANCOCK ROAD
CLERMONT, LAKE COUNTY, FL

APPROXIMATE SCALE:

1"=5'

DATE: 10/05/17

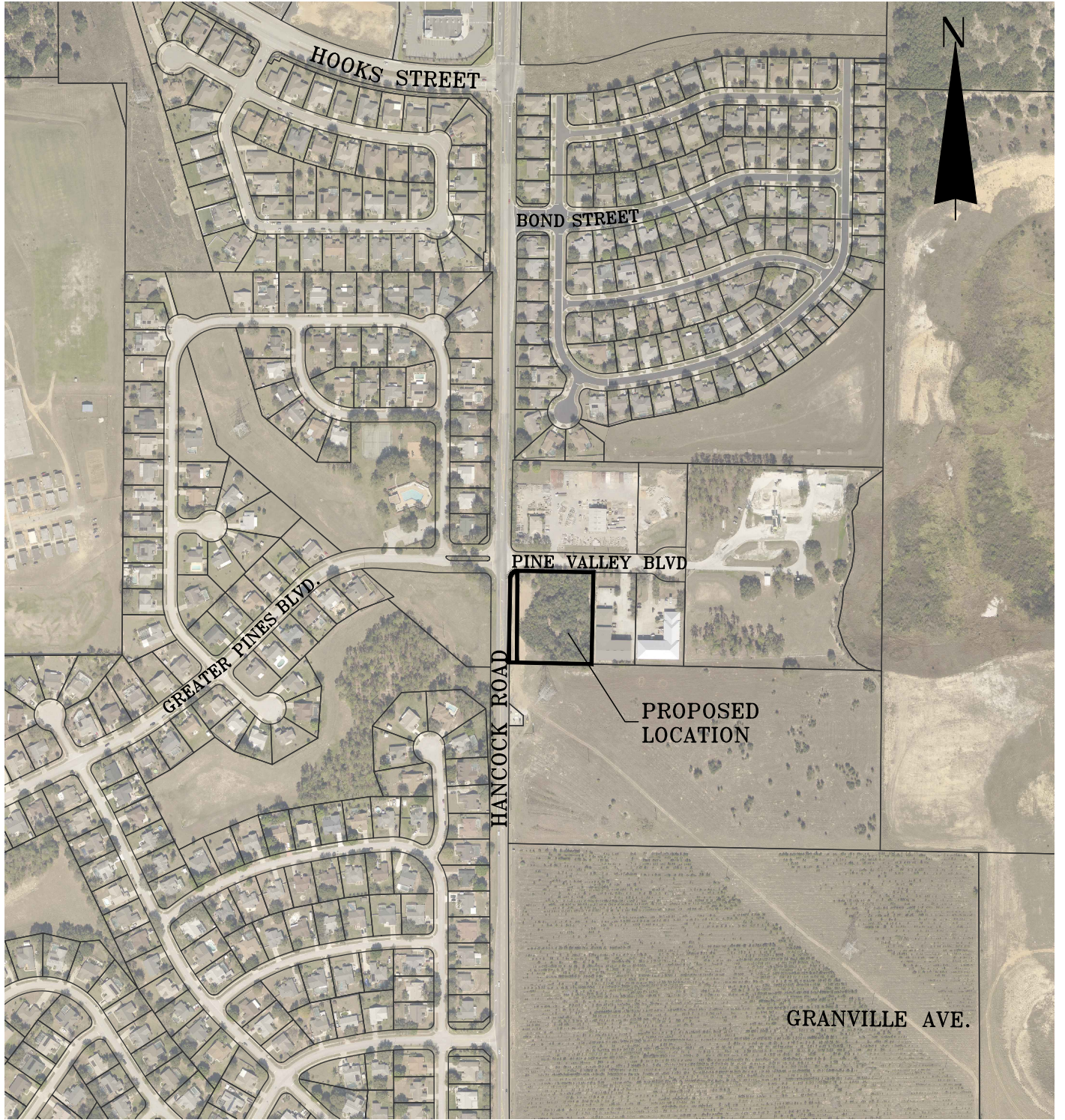
ENGINEER: RC

PN: CPGT-17-132

DRAWN BY: DLS

SOIL PROFILES

FIGURE 4



AERIAL PHOTOGRAPH

SOURCE: LAKE COUNTY 2017

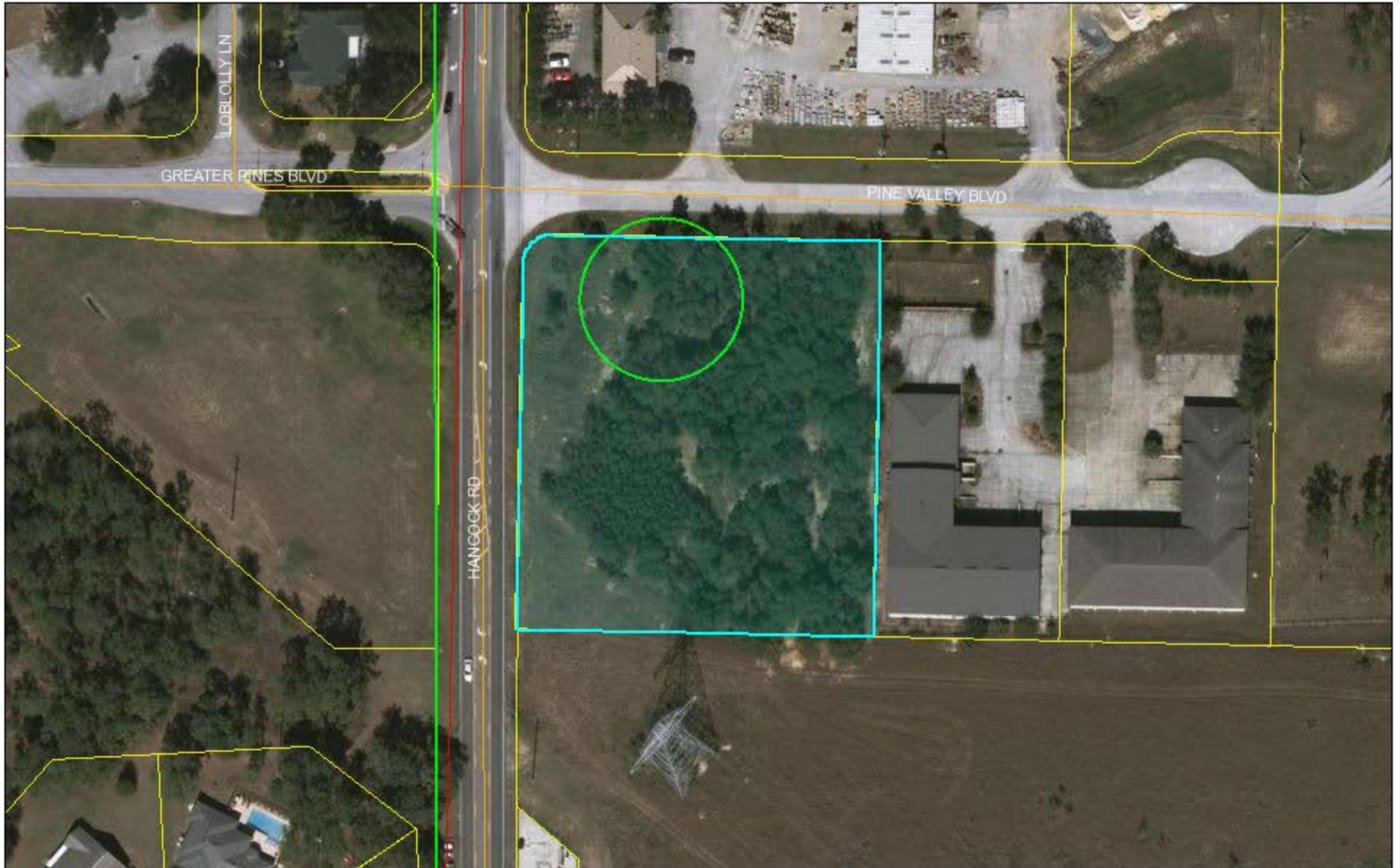
SCALE : 1" = 500'

LOTS 8 & 9 PINE VALLEY INDUSTRIAL PARK
VETERINARIAN OFFICE
CLERMONT, FLORIDA
SECTION 27, TOWNSHIP 22S, RANGE 26E


GERMANA ENGINEERING AND ASSOCIATES, LLC

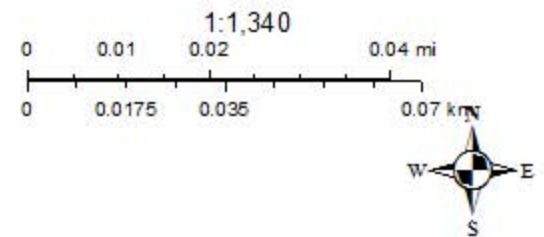
WWW.GERMANAENGINEERING.COM
CA # 29279

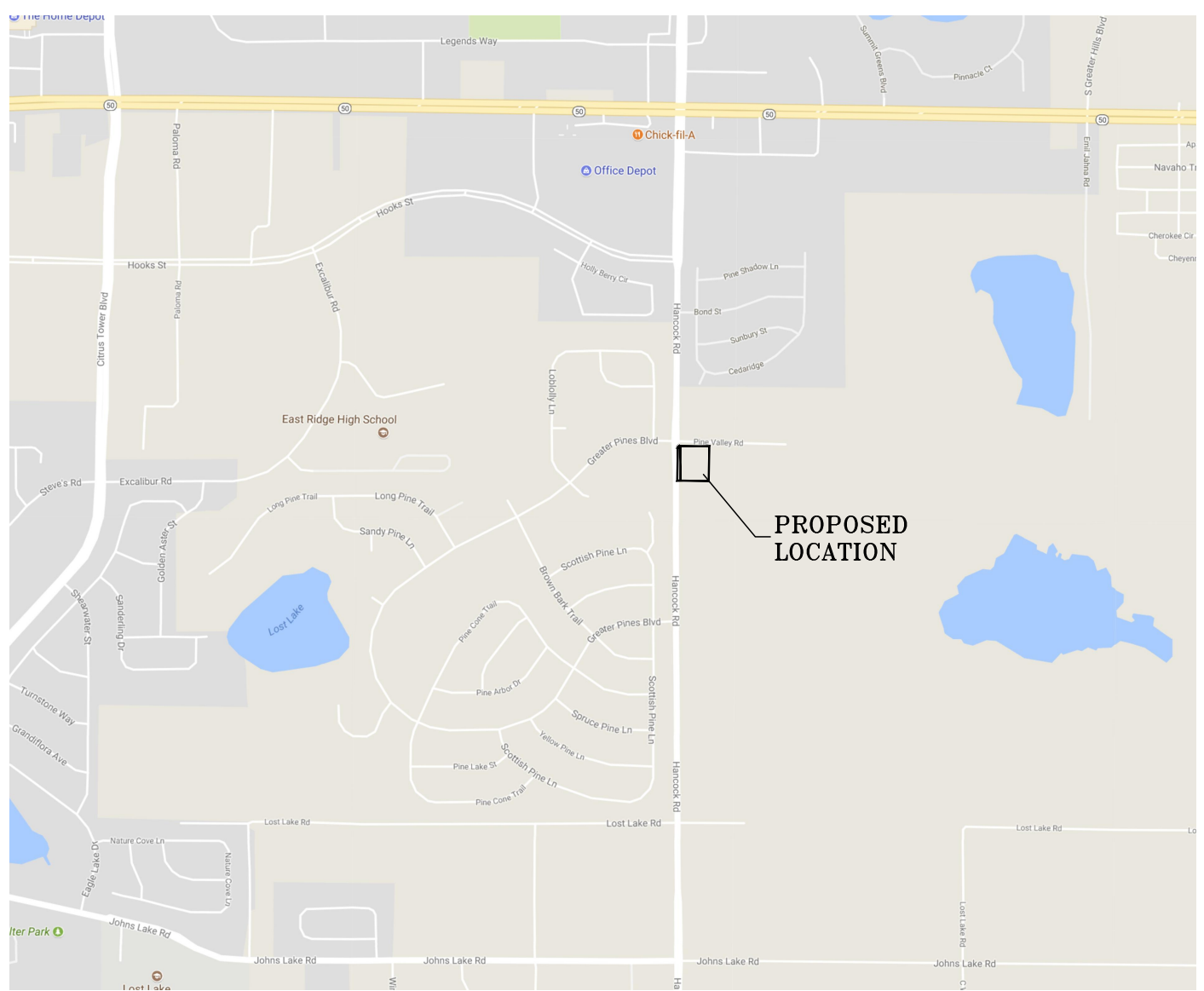
Reference No: 393367



November 19, 2017

County : LAKE
STR : 27,-22,26
Parcel(s) : 272226050000000800





LOCATION MAP

SOURCE: GOOGLE

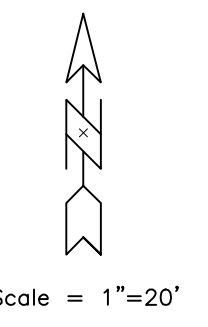
SCALE : 1" = 1500'

LOTS 8 & 9 PINE VALLEY INDUSTRIAL PARK
VETERINARIAN OFFICE
CLERMONT, FLORIDA
SECTION 27, TOWNSHIP 22S, RANGE 26E



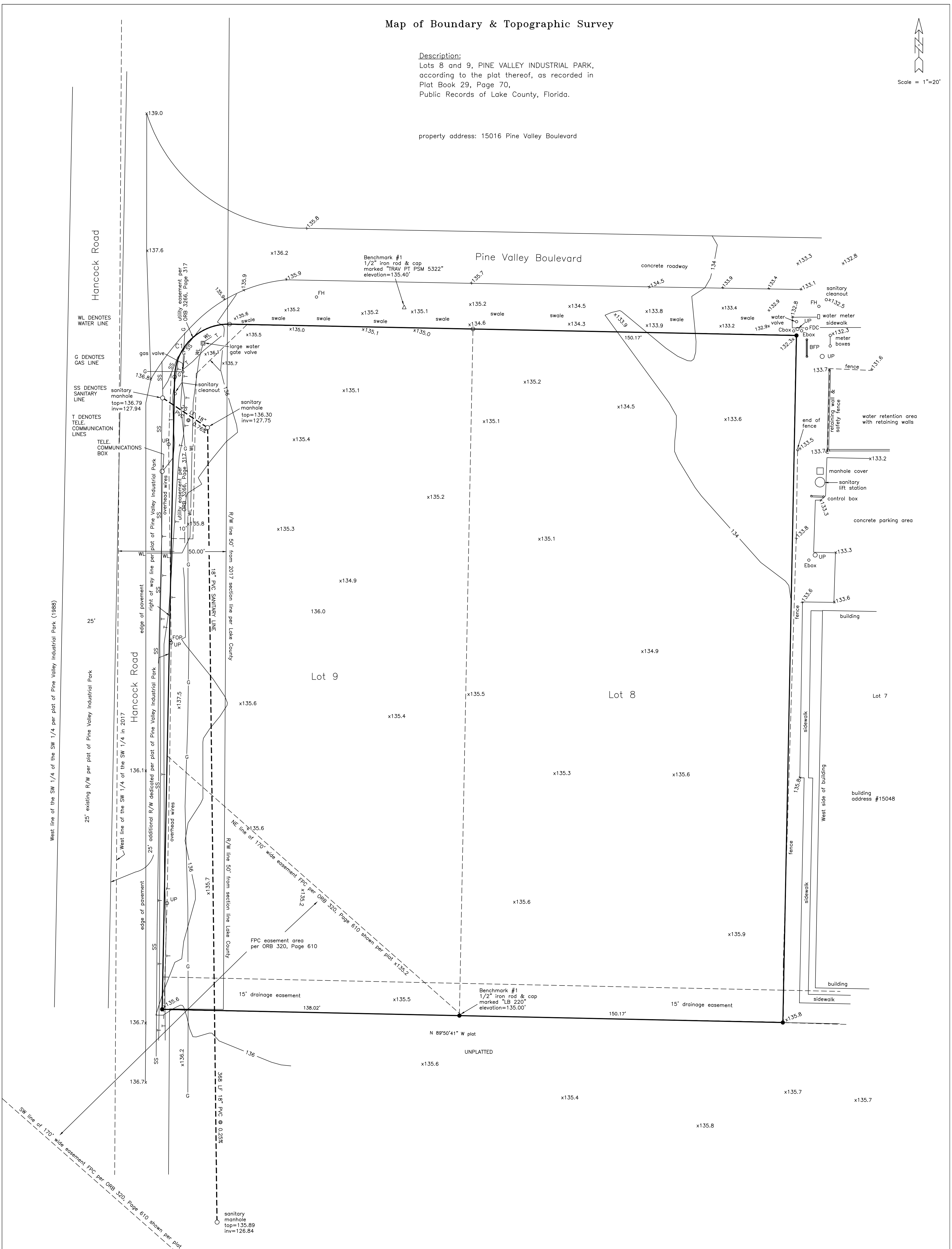
Map of Boundary & Topographic Survey

Description:
Lots 8 and 9, PINE VALLEY INDUSTRIAL PARK,
according to the plat thereof, as recorded in
Plat Book 29, Page 70,
Public Records of Lake County, Florida.



Scale = 1"=20'

property address: 15016 Pine Valley Boulevard



CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	25.00'	39.28'	35.36'	N 46°08'30" E	90°00'57"

LEGEND:

- Denotes found 1/2" iron rod & cap marked "LB 220"
- Denotes set 1/2" iron rod & cap marked "LB 6980"
- BFP denotes back flow preventor
- Cbox denotes cable box
- Ebox denotes electric box
- FDC denotes fire department connection
- FH denotes fire hydrant
- FOP denotes fiber optic marker
- UP denotes utility pole

Notes:
-Bearings based on the South lines of Lots 8 & 9 as being N 85°45'55" W, an assumed meridian.
-Legal description supplied by client.
-No title commitment or abstract has been provided for the subject property. There may be recorded or unrecorded documents which could affect this parcel.
-No adjacent or underground improvements, other than those shown, located this date.
-Subject property contains 2.106 acres, more or less, and is subject to any rights of way or easements of record.
-Elevations based on NAVD 1988 datum.
Utility lines shown along Hancock Road are based on the location of utility flags & paint set by others.

Surveyor's Certification
I hereby certify to Andoc, LLC,
Live Oak Banking Company,
Kracht Law Firm, P.A.,
and Old Republic National Title Insurance Company
that this Map of Boundary & Topographic Survey meets the
Standards of Practice for surveys as set forth in
Chapter 5J-17 Florida Administrative Code, pursuant to
Section 472.027, Florida Statutes.

City of Clermont
I hereby declare that based on my
examination of the Flood Insurance Rate
Map number 12069C 0590 E dated Dec. 18,
2012, and that to the best of my knowledge,
belief and my professional opinion that the
subject property lies within flood zone X.

11/16/17 added utility lines along Hancock
JEFFREY P. RHODEN PSM #5322
STATE OF FLORIDA
UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL
RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND
MAPPER, THIS MAP/REPORT IS FOR INFORMATIONAL
PURPOSES ONLY AND IS NOT VALID.

Field Date 07/20/17	Prepared for: Lost Lake Medical Building, LLC	17050.001
Drawn by: JPR	Rhoden Land Surveying, Inc. LB #6980 420 E. Minnehaha Ave. Clermont, FL 34711 352-394-6255	
Scale: 1"=20'		